If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

12.42 Transfer Gas from MP-7 to East Bank

Text Pages 2 through 5

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: ***Signature on File*** _____
Collider-Accelerator Department Chairman — Date

C. Carlson

12.42 Transfer Gas from MP-7 to East Bank

1. Purpose

The purpose of this procedure is to define the sequence of activities required to transfer SF6 gas mixture from MP-7 to the East Bank storage tanks.

2. Responsibilities

It is the responsibility of the person or persons executing this procedure to observe all safety rules.

3. Prerequisites

The person or persons executing this procedure shall have all formal training required of a TVDG Operator.

4. Precautions

None

5. Procedure

5.1 **Preliminary activities**

5.1.1 Insure that both LE and HE Vacuum Gauges are ON and zeroed.

5.1.2 Turn Chart Recorders ON and record DATE and TIME on chart.

5.1.3 Record LE & HE Vacuum readings on Pumpout Log Sheet.

5.1.4 Record Storage & Tank pressures on Log Sheet.

5.1.5 Set MIRAN System to NORMAL (all channels ON, HOLD OFF).

5.1.6 In the gas house, OPEN the three EAST BANK manifold isolation valves.

5.2 Set Air Control Valve HOV-48 to Empty

5.3 Close HCV-28. Verify that HCV-53 & FCV-2 are Closed. Leave HCV-24 Open.

5.4 In the Pit below MP-7:

5.4.1 Close 4 Cold Water Valves.

5.4.2 Open 4 Hot Water Valves.

5.4.3 Unlock and Open V-52 (valve will be closed again in step 5.7).

5.4.4 Unlock and Open HOV-30 (located on West Wall halfway down MP-7 LE Stairs).

5.5 Open PCV- 1, HOV-11, HOV-8, HOV-9 & HOV-15 in order to get Compressors into Bypass and to equalize pressure across HCV-30.

5.6 Open HCV-30 when Differential Pressure Gauge reads 0.

5.7 Close and Lock V52 in the Pit below MP-7. Remove the key and insert it into the corresponding lock on the LE MP-7 Manway Door.

5.8 Turn the Recirculator ON.

5.9 Turn the Hot Water Pump (J- 130) ON and Open the Hot Water Valve.

5.10 If MP-7 Tank Pressure is higher than East Bank Storage Pressure, then Open HOV-18 to allow gas to Free Flow from MP-7 to the East Bank. Record Time, Tank Pressure, LE Vac and HE Vac on Pumpout Log Sheet.

5.11 Open Water Supply Valves on Both Compressors.

5.12 Verify that both Compressor Output Valves V-4 & V-6 are Open. Crack Open Input Valves V-3 & V-5 about 10%.

5.13 When the Tank-to-Storage Pressure Difference is less than or equal to 100 PSI or if Storage Pressure is higher than MP-7 Tank Pressure, then turn both Compressors ON (one at a time). Record Compressor Starting Time, Tank Pressure, LE Vac, HE Vac and Storage Pressure on Pumpout Log Sheet.

5.14 Close HOV-8 & Open HOV-18. MP-7 is now being pumped out well as the gas line out to V-52. Adjust the Compressor Input Valves V-3 & V-5 for a Compressor Input Pressure of 125 PSI MAXIMUM (This pressure may be read on the gauges above V-3 and V-5).

5.15 To have the Tank emptied as soon as possible, keep Opening V-3 & V-5 to maintain the Compressor Input Pressure at 125 PSI.

Caution:
Do Not Exceed 125 PSI

5.16 Well before the Tank Pressure is down to 0 PSI, evacuate and backfill the Vacuum Pumps and Vacuum Lines between HCV-1 and HCV-2 with SF6 mix as follows:

5.16.1 Select Vacuum Pump Output HCV-54 for Exhaust.

5.16.2 Open HCV-31.

5.16.3 On SF6 Control Panel, set Pressure Controller PCV-33 to Valve and Manual and turned Wide Open.

5.16.4 Set both Blower Switches to OFF.

5.16.5 Close V-45A (Vacuum Pump Vent Valve).

5.16.6 Turn Vacuum Pump (J- 105) ON. In a very short time the pressure should be down to 30" as read on the gauges directly above V-45B (near valve HCV-31).

5.16.7 Turn Vacuum Pump OFF.

5.16.8 Select HCV-55 for SF6 Recovery.

5.16.9 Open V-45B to backfill this line and the Vacuum Pumps with SF6 mix.

5.16.10 Close V-45B when the gauges above V-45B read 0 PSI. Note that Vacuum Lines filled with SF6, on Check Sheet.

5.17 When the above steps are completed, but before the Tank Pressure is down to 0 PSI, Prepare for Vacuum Pumping:

5.17.1 Verify that Vent Valves V-45A & V-45B are Closed.

5.17.2 Verify that both Blower Switches are OFF.

5.17.3 Open Water Cooling Valve on SF6 Recovery Heat Exchanger (Valve is located over head to right of Gas Panel and has a dark blue handle).

5.17.4 Verify that HCV-55 is set for SF6 Recovery.

5.18 When Tank Pressure is 0 PSI on the MP-7 Tank-to-Atmosphere Differential Pressure Gauge, Proceed to C-A-OPM 12.44 "Vacuum Pumping MP-7 - SF6". Record Time, Tank Pressure, LE Vac, HE Vac and Storage Pressure on Pumpout Log Sheet.

6. Documentation

6.1 Complete Pumpout Log Sheet as required by this procedure.

7. References

7.1 C-A-OPM 12.44 "Vacuum Pumping MP-7 – SF6

8. Attachments

None